Remarks:

Applicant appreciates the Examiner's prior art search and careful examination of this application.

Claims 1 and 2 have been amended as suggested by the examiner to remove any reference to a "first" channel. Claims 10 and 11 have been amended as suggested to clarify a first channel so as to place these allowed claims in final suitable form.

Claims 1-9 have been rejected under 35 USC 112, first paragraph, as failing to comply with the written description requirement. The Office Action states that the claims contain subject matter which is not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention.

The Office Action states that the claims, as amended in the previous office action response, namely "... **inserting said insert piece downwardly into said first channel, with the top surface of the insert initially above the top surface of the core**..." and "... **pressing said insert piece downwardly**..." are not supported by the original disclosure. It also states that "... **nowhere in the specification is 'downward' disclosed**..", nor "... **is there an embodiment describing that the insert is above the core**."

This raises two separate issues. The first is whether the specific words "above" and "downwardly" are in the specification, and the second is whether the disclosure in the specification supports that language or whether its insertion would constitute new matter. While those specific words are not in the original specification, they are now being added in a new paragraph, which does not add new matter, as it simply describes what has already been shown and described in the specification.

Please consider the specification, beginning on page 9, line 4, which states:

"Figure 9 is a sectional view or an end view of the insert 24 of Figure 7 prior to its insertion into the core 22. Again, the ***insert 24 has the same profile along its entire length****. This insert 24 is made out of wood and is approximately rectangular in cross section except for two shoulders 30 along the sides of the insert 24, which make the base 32 of the insert 24 slightly wider than the top 34 of the insert 24. The* ***dimensions of the insert*** *are such that the base 32 fits snugly between the legs 36 of the channel 26, and the* ***height of the insert 24, as measured from the base 32 to the top 34, is slightly less than the depth of the U-shaped channel 26 from the base 29 to the open end 31 and***

slightly greater than the distance between the tops of the crush ribs 28 and the open top 31 of the channel 26.

Figure 7 shows the assembly of the profile 20 with the insert 24 lodged inside the channel 26, such that the base 32 of the insert 24 is adjacent the bottom 29 of the channel 26, and the top 34 of the insert 24 is flush with the top 31 of the core 22. ***Figure 12 shows that the upper tip of the V-shaped crush rib 28 has been crushed by the bottom 32 of the insert 24.*** *The* ***insert 24 preferably is inserted into the channel 26 by inserting the base 32 of the insert into the open top of the channel 26, moving it toward the crush ribs 28 and crushing the crush ribs 28 sufficiently to make the upper edges 31, 34 flush with each other.***

In the preferred manufacturing process, the elongated ***core 20 and insert 24 are placed adjacent and parallel to each other, with the base 32 of the insert 24 directed toward the open channel 26 of the core 20.*** *Then, a* ***set of guiding rollers*** *(not shown), which aligns and directs the profile toward the entry plate of the extrusion die (for applying the skin coating),* ***applies pressure to the bottom 21 of the core 20 and to the top 34 of the insert 24 so as to push the insert 24 into the channel 26 of the core 22 until the top 34 of the insert 24 is flush with the top edge 31 of the core 22.*** *In the process, the crush ribs 28 are crushed or deformed to allow the insert 24 to move into the channel 26 the desired distance until the outer surfaces of the insert 24 and of the core 22 are flush."*

Thus, the specification clearly describes a situation in which the top of the insert initially must be above the top of the core, both due to the relative dimensions of the insert and the channel in the core (i.e. the height of the insert as measured from the base 32 to the top 34 is slightly less than the depth of the U-shaped channel 26 from the base 29 to the open end 31 and slightly greater than the distance between the tops of the crush ribs 28 and the open top 31 of the channel 26) and due to the process as described, in which the base 32 of the insert is directed toward the open channel 26 of the core, and guiding rollers apply pressure to the bottom of the core and to the top of the insert to push the insert into the channel until the top of the insert is flush with the top of the core. The only way the assembly could occur as described is for the top surface of the insert initially to be above the top surface of the core and for the insert to be pressed downwardly into the core, in the direction of the crush ribs. Thus, while the words "downwardly" and "above" are not in the original specification, their addition into the specification does not add new matter.

The words "downwardly" and "above" have thus been added to the specification, without adding new matter to the specification, in order to support the language of the claims. Therefore, this should resolve the Section 112 issue.

Claim 1 has been rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 1,880,115, Smith et al., or US Patent 6,971,771, Kanematsu et al.

Smith '115 discloses a method for making a pipe coupling. A female member 3 defines an annular channel 4 with serrations 6 at the bottom of the channel 4. An annular metal gasket 5 (See Figure 2) with matching serrations 7 on its bottom surface is placed in the annular channel 4, and an expanding and forming die (shank 11, die 12) is brought down to bear on the gasket 5 to permanently expand the metal gasket 5 to make a tight and permanent fit.

Referring to the specification, page 2, lines 28 – 35, and to Figures 2 and 3, it is clear that:

a) the female member 3 (which defines the channel 4), the channel 4 itself, and the gasket 5 (which would be the counterpart of the insert in the present invention) are all annular members, and thus none of them have the same profile along their length, as recited in claim 1. (See also page 8, last paragraph, highlighted in bold, above).

b) The serrations 6 on the channel 4 and the serrations 7 on the gasket 5 are designed to match up with each other. These ridges are brought into intimate contact with each other, but they are not crushed as recited in claim 1. Instead, the sloping surfaces of the gasket 8 are flattened, and the gasket is expanded within the channel. (See Figure 3 and the specification beginning on page 2, line 19.)

c) There is no alignment of any of the top surfaces in the Smith '115 patent as recited in claim 1. As can be seen in Figure 3 of Smith, the top surface of the gasket 5 gets imprinted with ridges or serrations from the corresponding serrations on the die 12 (See Figure 1), and this top surface of the gasket 5 is well below the top surface of the female member 3 in which it is received.

Kanematsu '771 discloses a method for making a composite optical component. Figures 13 and 14 are the figures that show ribs 110a with hemispherical contact protrusions 110b. The only way these ribs 110a and their corresponding protrusions 110b can be inserted is lengthwise into U-shaped channels 111a in the holding device 111. If the protrusions 110b are said to be at the bottom of the ribs, then the insert is not inserted downwardly toward the protrusions but rather is inserted sideways, perpendicularly to the protrusions. Also, the insertion does not bring the top of the insert into alignment with the top of the holding unit 111 but rather brings the side of the insert into alignment with the side of the holding unit 111 into which it is inserted.

In the most recent Office Action, the Examiner has noted that Figures 2A and 4A of Kanematsu show an insert being inserted downwardly into a channel of a holding device 11. However, that embodiment has no bumps or projections that could be called "crush ribs" located at the bottom of the insert such that the insert would be pushed downwardly toward the crush ribs to deform them to bring the top surface of the insert into alignment with the top surface of the receptacle. In the embodiment of Figures 2A and 4A, if the direction of insertion is considered to be downward, then the top surfaces of the insert and the receptacle never come into alignment. The top surface of the insert is always above the top surface of the receptacle.

Claim 1 reads as follows:

A process for making a composite profile, including at least one core piece and one insert piece, each having a top surface and a bottom surface, and a length extending from a first end to a second end, and each having substantially the same profile from its first end to its second end, wherein said core piece defines a channel sized to receive said insert piece, said channel extending lengthwise from said first end to said second end, comprising the steps of:

providing a crush rib between the bottom surface of the insert piece and the channel;

inserting said insert piece downwardly into said channel, with the top surface of the insert initially above the top surface of the core; and

pressing said insert piece downwardly into said channel to deform the crush rib until the top surfaces of the insert and the core are aligned.

As has already been explained in the previous Office Action response, the amended claim 1 makes it clear that the crush rib is between the bottom surface of the insert piece and the channel and that the insert piece is inserted downwardly into the first channel to deform the crush rib until the top surfaces of the insert and the core are aligned. Of course, the parts may be oriented in any direction within the scope of this claim (i.e., the core and insert may be upside down or sideways), but the relative positions and directions between the insert and the core are defined by the claim. Thus, if the crush rib is between the bottom surface of the insert piece and the channel, then inserting the insert piece downwardly means inserting it toward the crush rib, so that, as the insert is inserted, the crush rib is deformed until the top surfaces of the insert and the core are aligned. Looking at the Kanematsu reference (Figure 13B), if the protrusions 110b are considered to be on the top and bottom surfaces of the insert, then the insert is not inserted downwardly but rather is inserted sideways, in a direction perpendicular to the downward direction, and the surfaces that come into alignment are the side surfaces, not the top surfaces.

The Kanematsu embodiment which has the protrusions 110b is made such that the insert cannot be inserted downwardly in the direction of the projection in order to deform the projection and bring the top surfaces of the insert and core into alignment as claimed. If one attempted to insert the part 110 downwardly (in the direction of the projection), the ribs would bump into the sides of the enclosure 111, preventing insertion. The only way the insert of Kanematsu can be inserted is in a sideways direction, perpendicular to the downward direction. Also, the top surface of the insert never comes into alignment with the top surface of the receptacle into which it is inserted. Thus, Kanematsu does not teach or suggest what is recited in claim 1.

If the protrusions are considered to be on the top and bottom surfaces of the insert of Kanematsu, then the purpose of the protrusions is to allow the insert to slide sideways in the channel with minimal resistance, while the purpose of the crush rib as recited in claim 1 is entirely different. The crush rib recited in claim 1 permits the product to be manufactured at a reasonable cost, without requiring the parts to be made to very precise tolerances. The crush rib provides leeway, so the top surfaces of the final product can be brought into alignment even if the parts are not perfectly sized. This is not taught or suggested by Kanematsu.

As was explained above, the embodiment of Kanematsu that is shown in Figures 2A and 4A does not have protrusions, and the top surfaces never come into alignment. Therefore, this embodiment also does not teach or suggest the invention as recited in claim 1.

There is no reason a person of ordinary skill in the art would combine the pipe coupling of Smith with the optical component of Kanematsu. Smith is looking for a way to seal a pipe, and Kanematsu is looking for a way to permit an optical element to slide within a receptacle. The products are entirely different, and there is no basis for combining them. However, even if they were to be combined in some manner, they would not produce the claimed invention.

Neither Smith nor Kanematsu crushes a crush rib. Neither Smith nor Kanematsu brings the top surfaces of an insert and a receptacle into alignment with each other. And certainly neither Smith nor Kanematsu uses the crushing of a rib to enable the top surfaces of two parts to be brought into alignment as recited in claim 1. Thus, even if one were to go far beyond anything that would be obvious to a person of ordinary skill in the art in order to combine these references, the result still would not meet the limitations of claim 1. Therefore, claim 1 recites an invention that is both novel and unobvious in view of the prior art.

Claims 2-8 were rejected as an obvious combination of Kanematsu '771 and Ogi, US Patent 4,261,947. The currently amended Claim 2 reads as follows:

2. (currently amended) A process for making a composite profile, including at least one core piece and one insert piece, each having a top surface and a bottom surface, and a first end and an opposite second end, wherein said core piece defines a channel sized to receive said insert piece, comprising the steps of:

providing a crush rib between the bottom surface of the insert piece and the channel;

inserting said insert piece downwardly into the channel of said core piece, with the top surface of the insert piece initially above the top surface of the core piece;

pressing said insert piece downwardly into said channel to crush the crush rib until the top surfaces of the insert and the core are aligned, thereby forming a core and insert assembly; and

passing the core and insert assembly through an extrusion die to apply a coating.

As discussed above, Kanematsu does not teach inserting the insert piece downwardly into the channel to crush the crush rib until the top surfaces of the insert and the core are aligned as recited in claim 2. Column 15, lines 25-65 describes the hemispherical protrusions being on the top and bottom sides of the ribs, and the insert is slid into the enclosure in a sideways direction, which is perpendicular to the direction of the projections. The idea is not to crush the protrusions but rather to use them as small surface areas of contact that permit the insert to slide relative to the enclosure. Column 19, lines 5-30 similarly describes Figures 18A-F, in which again the insert is slid in a direction perpendicular to the protrusions. Thus, Kanematsu does not teach the process recited in claim 2 minus the coating step.

Ogi '947 discloses a method for manufacturing hollow plastic articles by filling a jointing groove between the parts with heated and plasticized or molten plastic material to fuse the plastic material of the articles at their contact surfaces. Ogi does not coat the part but only fills a groove in the part in order to fuse the parts together. Column 3, lines 5-25 describe the product being put into a mold and then polyethylene being injected into the jointing groove to fuse the contact surfaces together. It does not describe passing the assembly through an extrusion die, and it does not describe coating the assembly.

As discussed in a previous Office Action response, in Ogi, the hollow plastic articles are held together by suitable jigs or fixtures (See Column 3, lines 36 – 38), and the molten plastic is injected only at the jointing groove so as to fuse the contact surfaces of the articles to secure the articles together into a single piece. The use of jigs or fixtures to hold the two parts together would make it impossible to feed the part through an extrusion die to coat the part as recited in claim 2.

There also would be no reason to fuse the parts of Kanematsu together as taught by Ogi, since the entire purpose of Kanematsu is to allow the parts to slide freely relative to each other. In other words, fusing the parts of Kanematsu together would defeat the entire purpose of the Kanematsu design. Since defeating the entire purpose of a design cannot be considered to be obvious to a person of ordinary skill in the art, the combination of Kanematsu and Ogi cannot be obvious. Further, even if the two references were combined, they would not make the invention recited in claim 2, since Kanematsu does not teach inserting an insert piece in the direction of a crush rib and crushing the crush rib to align the top surfaces of the insert and receptacle, and Ogi does not teach passing an assembly through an extrusion die to apply a coating.

Therefore, claim 2 recites an invention that is both novel and unobvious in view of the prior art.

With respect to claim 4, the embodiment of Figure 11 of Kanematsu has no protrusions that could even be called crush ribs, and there is no suggestion to apply coating in the wider gap, because that would prevent the insert from sliding relative to its holder, exactly the opposite of what is intended in Kanematsu. (See column 2, lines 41-46, describing the slide-fit.)

With respect to claim 5, Kanematsu does not teach forming a wider gap by providing a recessed shoulder on the insert. Instead, Kanematsu makes the gap wider by flaring the sides of the core.

Claim 7 recites a recessed shoulder on the side surface of the insert, forming a gap between the core and the insert above the recessed shoulder, with the gap being filled with the coating. Such a gap 40 is shown in Figure 7 of the present application, directly above the shoulder on the insert. Figure 1 of the Ogi reference shows a shoulder 5, but the connecting piece follows the shape of the shoulder, so a gap is not formed above the recessed shoulder as claimed.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kanematsu '771 in view of DeRees, US Patent 5,670,109.

DeRees '109 discloses a method for assembling vehicle body members using an injected adhesive which flows through a predesigned channel cavity formed at the interface of the vehicle body members. As indicated in Column 3, lines 4-8, the body components may be held together by mechanical devices (such as bolts) so that the adhesive injection process may be carried out.

Kanematsu '771 requires the insert 110 to be able to slide within the core 111 to ensure that the insert 110 will not distort due to thermal stresses. The use of adhesives in the Kanematsu reference to fix the insert and core together would render the Kanematsu device non-functional. It cannot be considered to be

obvious to a person of ordinary skill in the art to modify a design so that it will not function. Further, the Kanematsu reference does not teach the limitations recited in claim 1, from which claim 9 depends. Therefore, the combination of Kanematsu and DeRees cannot make the invention recited in claim 9.

Since all the claims recite an invention that is both novel and unobvious in view of the prior art, Applicant respectfully requests allowance of all the claims now pending in the present application. If there are any remaining problems with this application, Applicant's attorney would appreciate a call from the Examiner to help expedite their resolution.

Respectfully submitted,

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